

In the Claims:

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85. (NEW) A method for regulating mammalian hair growth, comprising modulating heparanase activity, heparanase level and/or heparanase expression in hair follicle cells or keratinocytes, so as to regulate hair growth.

86. (NEW) The method of claim 85, wherein said modulating comprises modulating cell differentiation.

87. (NEW) The method of claim 85, wherein said modulating comprises increasing heparanase activity, heparanase level and/or heparanase expression to increase hair growth.

88. (NEW) The method of claim 87, wherein said increasing heparanase activity increases at least one of mitogenesis or angiogenesis or a combination thereof.

89. (NEW) The method of claim 85, further comprising administering a growth factor.

90. (NEW) The method of claim 89, wherein said growth factor comprises FGF.

91. (NEW) The method of claim 85, wherein said modulating comprises decreasing heparanase activity, heparanase level and/or heparanase expression to decrease hair growth.

92. (NEW) The method of claim 91, wherein said decreasing comprises administering a heparanase inhibitor.

93. (NEW) The method of claim 85, wherein said modulating comprises modulating cell apoptosis.

94. (NEW) The method of claim 85, wherein said modulating comprises applying a composition comprising heparanase or a heparanase inhibitor.

95. (NEW) The method of claim 94, wherein said applying is performed through a topical route, such that said composition comprises a pharmaceutically acceptable topical carrier.

96. (NEW) The method of claim 95, wherein said topical carrier comprises a liquid or non-liquid carrier, lotion, cream, paste, gel, powder, ointment, solvent, liquid diluent, or drops.

97. (NEW) The method of claim 94, wherein said heparanase comprises a polypeptide having a sequence at least 60 % homologous to SEQ ID NOs:10, 14, 44 or portions thereof as determined with the Smith-Waterman algorithm, using the Bioaccelerator platform developed by Compugene (gapop: 10.0, gapext: 0.5, matrix: blosum62).

98. (NEW) The method of claim 97, wherein said sequence is as set forth in SEQ ID NOs:10, 14, 44 or portions thereof.

99. (NEW) The method of claim 85, wherein said modulating comprises applying one or more of heparanase expression vectors or heparanase overexpressing cells.

100. (NEW) The method of claim 99, wherein said applying is performed through a topical route.

101. (NEW) The method of claim 85, wherein said modulating comprises applying a composition comprising a heparanase antisense nucleic acid.

102. (NEW) The method of claim 101, wherein said antisense nucleic acid is determined according to a polynucleotide having a sequence as set forth in SEQ ID NOs: 9, 13, 42 or 43.

103. (NEW) A method for cosmetic treatment of hair, comprising administering heparanase.

104. (NEW) A method for cosmetic treatment of hair, comprising administering a heparanase inhibitor.